TROPICAL GREENLAND

Smithsonian Scientists Return from Strange Arctic Exploration.

In the Midst of a Land of Everlasting Ice They Have Been Digging Up Fossil Palms, Tree Ferns and Other Remains of Tropical Vegetation--A Time When Greenland Had a Climate Like That of Egypt Today--Remarkable Collections Brought Back for the National Museum.

Two Smithsonian scientists, Charles Schuchert and David White, have just returned from the wilds of west Greenland, bringing back valuable collections. In a region of everlasting ice and snow they have been exploring luxuriant tropical forests. Far to the north of the Arctic circle they have been studying a flora consisting of palms, tree ferns, and other plants belonging properly to the neighborhood of the equator. These forests, however, and the trees and varied forms of plant life which compose them are exceedingly ancient. In fact, they disappeared from the face of the earth several millions of years ago, and only their fossil remains are found buried in the strata of the rocks. It was these remains that Messrs, Schuchert and White went to investigate. They wanted to get specimens for the National Museum, and other objects of a geological nature were in view.

Greenland was once upon a time a tropical country. That is proved absolutely by the remains of an extensive tropical flora which are found there. Where now a sheet of solid ice over a mile thick covers mountain and valley, and mighty frozen rivers called glaciers make their way to the sea and hatch icebergs, there was in earlier days a verdure-clad wilderness of luxuriant vegetation. Together with the palms and tree ferns, there were trees related to the giant sequoias of our own west coast; also representatives of the "gingko," the sacred tree of Japan and of the Eucalyptus family, which today is restricted to Australia. Climbing vines festooned the trunks of these monarchs of an ancient forest with draperies of foliage, while close to the ground grew those curious dwarf trees called "cycads," somewhat resembling palms in miniature, in the midst of a tangled undergrowth of ferns and other flowerless plants that carpted the densely wooded areas.

Messers. Schucher and White accompanied the Peary expedition just returned. They were bent on business of their own, however, and it had nothing to do with the exploring trip of the steamer Hope, on which they took passage. The Navy Department provided them with a whaleboat twenty-eight feet long, which was used by the U. S. S. Yantik when she was in Arctic waters. The Hope landed them, with their boat, at Oomenak Island, in the Oomenak Fjord. There was a great commotion among the natives, who, on this occasion beheld a steamship for the second time in their lives, the Hope having visited this locality the year before. It is far out of the track of whalers, on the western coast of Greenland. The inhabitants flocked out in kyaks, and bags of crackers being thrown overboard from the vessel, they had great fun racing for them.

This colony of Greenlanders is nestled in a little fjord which, by an accident of situation is protected from the glaciers which pour down from the great ice-cap of the island-continent into the sea on every side. It is surrounded by mighty mountain peaks, and the little harbor was crowded with icebergs when the Hope got there, though it was mid-summer. The governor of the settlement is named Kneutsen. He is a Dane, and is appointed by the Government of

Denmark. He has held the office twenty-three years, the rule being that the governor of a Greenland colony shall remain twenty-five years and then go home on a pension. He does all the buying and selling for the natives, trading sealskins and other furs for clothing, wood, coffee, sugar, fishhooks and other necessaries. There are no trees in Greenland, and so the wood for boat building and other purposes must be imported.

Governor Kneutsen secured for the expedition four Greenlanders. Most of these people have an admixture of Danish blood, and they do not like to be called Eskimo, which is a term bestowed originally in contempt, meaning "fish-eaters." A sailor from the Hope also went along. They started out in the whale boat on Aug. 10, and landed on the Noursoak Peninsula, which proved to be a rich field in fossil plant remains. There they collected the first fossil plants, gathering them up to an elevation of two thousand feet. Thence they travelled along the coast southward, collecting as they went, as far as Atanekerdluk, in the neighborhood of which they obtained the largest quantity of plant remains. One object in view was to find out if the species of plants were the same as those which occur in corresponding geological formations in the United States.

Another object was to study the marine animals whose contemporaneous remains are associated with these ancient plants. Of these a large number were collected, including mussels, sea-snails, sea-urchins, ammonites and baculites. The ammonites and baculites were cephalopods related to the modern nautilus; no descendants of theirs are living at the present time. Like the nautilus, they were built on the cuttlefish plan, with several arms; the baculites occupied rod-shaped shells, while the shells of the ammonites were curled like a ram's horn. These fossils, relics of a vanished marine fauna, were found enclosed in nodules of stone, of which in many cases they were the nuclei. The nodules were extremely hard and difficult to break.

The tropical plant beds were overlaid by a later formation, in which it was hoped to find remains of whales and seals, but there was no trace of any animal life. In this upper deposit, however, were masses of fossil plants in layers two or three inches thick. This formation contains seams of an impure kind of coal, more properly called lignite, which is mined by the Danish governors for their winter fuel. The natives burn turf and blubber. Some students from different colleges, who accompanied the Hope exploring expedition more for sport than for anything else, landed in Baffin Land, at Cape Haven, where there is an American trading station. They took two whale boats and some natives, and made their way to the head of Frobisher Bay. Incidentally, they rediscovered Silliman's Fossil Mount, which was so named by Captain Hall, the Arctic explorer. They secured seventy species of mollusks, corals, trilobites, etc. The trilobites were especially interesting inasmuch as they were crustaceans of a type long ago extinct, the ancestors of modern lobsters and crabs. Mr. Schuchert dug up several very old graves, which were merely heaps of rocks covered with thin slabs of sandstone. They contained perfectly preserved skeletons.

The finding of the oldest hard-wood plant yet known in the world was perhaps the most interesting discovery of the expedition. It was a species of poplar, and the tree grew during the epoch already described, when Greenland was covered with tropical forests. This was in the early part of that age which geologists call the cretaceous--that is to say, not less in all probability than 5,000,000 years ago. That later cretaceous flora of the Noursoak region, as proved by the fossils, must have embraced many hardwood trees which were of the same genera as those which flourished at the same period along the east coast of North America from Cape Cod southward and around into the gulf States. They included representatives of the tulip tree, the poplar, the magnolia, the willow, the eucalyptus, and the sassafras. Apparently, at that time

the climate of Greenland was much like that of the gulf States today.

All the evidence seems to point to the conclusion that climates all over the world in that ancient epoch were pretty much the same. The same plants grew contemporaneously in Greenland and in California, in Spitzbergen and in Virginia. There was a uniformity of vegetation in all parts of the earth. Nobody can say just why this was, although several theories have been advanced to account for it. One theory is that the atmosphere in those days was heavily charged with watery vapor, so that warmth was readily distributed through it, and the sun's rays did no have a chance to strike the earth uninterrupted, making differences in climate by the degree of their slant. In the course of time the atmosphere thinned gradually, and then there can to be climatic variations marking a series of zones around the globe.

Eventually arrived the tertiary epoch, which was the last great geological period before that in which we live, which is the quatenary. It was at the beginning of that age that mammals first made their appearance on the earth, so far as is known. No remains of tertiary mammals, however, have been discovered in Greenland, though the mammoth, the mastodon, the woolly rhinoceros, and other creatures belonging to that epoch may have existed there. The expedition found the region about Noursoak very rich in the remains of tertiary trees and other plants. In addition to the willow, tulip tree, poplar, sassafras and magnolia, there were chestnut trees, oaks, hickories, birches, beeches, and other common kinds of hardwood trees of modern types, including some that were nearly related to the bald cypress of the Southern States. There were also several species of palms, some of which belonged to the genus Flabellaria, which now survives in tropical and sub-tropical countries. Of course, the Greenland climate had become much cooler by this time, but palms grow in latitudes where there are light frosts now and then.

An arctic tertiary flora has been found all around the world--in Iceland, in Spitzbergen, in Melville Island, and in Grinnell Land, where Greely discovered a fossil forest within eight degrees of the pole, the stumps of the trees still standing. The same flora has been found on the Aleutian Islands and in the basin of the Yukon, where it is associated with many veins of impure coal. It seems not unlikely that these coal deposits will be drawn upon some day to work the gold mines of the Yukon region. It is very interesting to observe that plants associated with this Alaskan coal are the same as those whose fossil remains are associated with the coal measures of the North and Northwest United States. It ought to be understood that none of the species found fossil in Greenland are living today anywhere in the world; they are represented at present merely by allied forms. The further one goes back in geologic times, the less the plants resemble modern ones.

The flora of Greenland today is of an Alpine character. More accurately speaking, the plants of the Alps, which are stranded as it were on islands of cold in the midst of a warm region, resemble those of Greenland. The planst of modern Greenland are dwarf plants, mostly. Some of these arctic forms have crawled down as far as the coast of Maine, just as the eider duck is occasionally seen as far south as Cape Cod. They consist of mosses, a few ferns, birches, two or three species of willows, etc. The expedition found poppies, crowberries and blueberries in Greenland. The rocks and hillsides were bare of vegetation, except in wet places along streams and on sunny and protected terraces. A purple flower related to the evening primrose forms patches in boggy places that can be seen for miles.

On the coast of Greenland are found the long-abandoned ruins of many buildings erected by the ancient Norsemen, of rock, and very substantial. According to tradition, a Norse navigator

named Gunnibiorn landed in the country in the year 872 A. D. The Norsemen certainly went as far as 75 degrees north latitude, which cannot be reached by the stoutest modern ship without serious risk. These voyages were accomplished, too, in half-decked, open boats. A stone found near Upernavik, in latitude 72 degrees and 30 minutes, bears an inscription in Runic dated 1135. In the old sagas and chronicles there is little mention of ice as an obstruction to navigation, and it is evident that the climate in those days was much warmer than it is now. Since then the glaciers have filled the fiords and have made the country uninhabitable, save in a few spots along the coast. The aboriginal Eskimo of the region were known as Skraellings, or "Little People," by the Norsemen, who treated them barbarously. But if tradition does not lie, the Skraellings got ample revenge in the end, totally wiping out the last of the Norse colonies. They built an immense raft of boats, over which they erected a low and irregular scaffolding, covered with tanned and bleached skins, so that when afloat the affair looked like an iceberg. It was turned adrift on the fiord, being permitted to float with the tide to the shore, where the Norse settlement was located. The inhabitants were taken by surprise, and all of them were killed.

There is a tradition of one Norse colony in Greenland which was cut off from civilization and lost. The winters grew colder, one unprecedented sever season following another, until the colony was shut away from the rest of mankind by frozen fields along the shore, and by the heaping up of might ice-cliffs through which there was no passage, and over which it was impossible to climb. That was six hundred years ago. The colony numbered about two hundred souls. According to traditional belief, its members still dwell at this day in a sort of ice-bound oasis, without entrance or exit. They are so many Rip Van Winkles, having no knowledge of the world without, save such as has been conveyed to them through tradition respecting affairs as they were six centuries back.

Rene Bache.

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What do you think now Mario of Atlantis in Greenland? Does this information make your theory more - or less - probable?

Mario Dantas:
Dear Qoais,
I guess the title says it all. But i am more and more confident that these data about Greenland will soon reveal something we didn't know e.g. the real relative and "absolute" dating. The dating must be wrong... i read somewhere about a study that positively proves that older records will lead to much larger errors results. In other words, the older the wronger. That could explain the great disparity seen on the Archaeological and Geological records comparatively to Atlantis time (+- 10 000 years ago).
Thanks for asking

regards,
M